Comments Received on Draft EIR

DEPARTMENT OF BOATING AND WATERWAYS
AQUATIC WEED CONTROL PROGRAM
2000 EVERGREEN STREET, SUITE 100
SACRAMENTO CALIFORNIA 95815
FAX (916) 263-0649

#1

EGERIA DENSA DRAFT EIR COMMENT SHEET

NAME (Please print clearly):
Russell Lukey

ADDRESS:
825 Crest Water Lane

Sacramento CA 95831

PHONE NUMBER (Please include area code):
(916) 424-5304

COMMENTS/QUESTIONS:

1 I am concerned about property that is on water which would be considered navigable, however, the property itself is difficult or practically impossible to get to because the water around its dock, bank, etc is infested with the Egeria weed. This is not a hypothetical situation for at least 61 renters of spaces on berms in Disappointment Slough owned by King Island Resort. We pay rent and property tax on these spaces and if the others are like mine, their use is severely limited by the Egeria. It is virtually impossible to swim fish or get our boat up to our dock. Yet, 10-20 yards in front of our dock the water is navigable. At the present time, our only source of control of the weeds is to harvest them. This is very hard work, ineffective, and worse, it adds to the proliferation. The alternative is to give up our place of 7 years and we love it too much to do that at this time. The Delta is very much a part of our life but the past 4 years since the advent of the Egeria it has been very trying.

2 I know there are a lot of property owners or renters with a problem similar to ours throughout the delta and I want to know what we can expect from the control program that will help us. I.E. if the program is to only maintain navigable access to the waterways can we as individuals obtain whatever chemicals are deemed proper? Also, what are businesses such as marinas, restaurants, etc going to do? I would hope the program can be expanded to include us.

***ALL WRITTEN COMMENTS WILL BE INCLUDED IN THE FINAL EIR, PLEASE EITHER TURN THE COMMENTS IN, FAX OR MAIL THEM TO THE ABOVE ADDRESS AND NUMBER. ALL MAIL MUST BE POSTMARKED NO LATER THAN MAY 22, 2000.

DEPARTMENT OF BOATING AND WATERWAYS
AQUATIC WEED CONTROL PROGRAM
2000 EVERGREEN STREET, SUITE 100
SACRAMENTO CALIFORNIA 95815
FAX (916) 263-0649

#2

EGERIA DENSA DRAFT EIR COMMENT SHEET

NAME (Please print clearly):
David T. Mott

ADDRESS:
5121 Gadwall Circle

Stockton CA 95207

PHONE NUMBER (Please include area code):
(209) 951-3950

COMMENTS/QUESTIONS:

1 The proposed area of treatment is of concern. I assume it was established with consideration of a guesstimate of the funds that will be made available. I think its wrong to include all the area of Franks Tract. Franks Tract is not a natural navigable water. Since the spread of the Egeria infestation is largely the result of it being cut up by boaters and the particle spreading and re-rooting. I believe some areas of the Delta (Franks Tract plus other areas such as Mildred Island etc) need to be made restricted areas so the control money can be used to control the weed in more of the channels used by boaters going to and from marinas, clubs, restaurants, and private docks.

***ALL WRITTEN COMMENTS WILL BE INCLUDED IN THE FINAL EIR, PLEASE EITHER TURN THE COMMENTS IN, FAX OR MAIL THEM TO THE ABOVE ADDRESS AND NUMBER. ALL MAIL MUST BE POSTMARKED NO LATER THAN MAY 22, 2000.

RECLAMATION DISTRICT 799
(Hotchkiss Tract)

#3

Board of Trustees: Robert D. Gromm, David A. Dal Porto, Kenneth Carver, Joseph S. Spotts, Lloyd F. Pereria.
Office: 2070 Dutch Slough Road, Oakley, CA 94561
Mail: P.O. Box 947, Bethel Island, CA 94511
Telephone: 1.925.684.2117. FAX: 1.925.684.9610

April 29, 2000

Department of Boating and Waterways
Aquatic Weed Control Unit
2000 Evergreen St. Suite 100
Sacramento, CA 95815

RE: Egeria densa control program

Upon receiving the "public notice" on availability of the Draft EIR and DBW asking for comments, the Board of Trustees of Reclamation District 799, at its regular meeting April 27, 2000, wants DWB to be aware of the following issues.

1 1 - Sand-mound Slough is clogged with egeria densa and deserves the highest priority in the control program.

2 2 - The mailed CD on the draft report was not complete and disappointing.

3 3 - Using copper in the control program should not be a problem since copper is a natural substance and will not remain in the water for a long period of time.

Thank you,

Robert D. Gromm - Chairman/Secretary

#4

DEPARTMENT OF HEALTH SERVICES
DRINKING WATER FIELD OPERATIONS BRANCH
31 EAST CHANNEL STREET, ROOM 270
STOCKTON, CA 95202

May 15, 2000

California Department of Boating and Waterways
Aquatic Weed Program
2000 Evergreen Street, Suite 100
Sacramento, CA 95815-3896

COMMENTS ON EGERIA DENSA CONTROL PROGRAM DRAFT EIR

The Drinking Water Program (DWP) in the Department of Health Services' Division of Drinking Water and Environmental Management has responsibility for the regulation of purveyors of drinking water in California. As part of the regulatory program, the DWP implements and enforces drinking water standards for numerous chemicals that may be found as contaminants in drinking water.

1 As the draft EIR acknowledges, there is the potential for the chemicals proposed for use in controlling Egeria densa to find their way into water taken by several surface water treatment plants that treat water from the Delta for domestic use. Therefore, it is appropriate that the program will be closely coordinated with the water purveyors that may be impacted and with the DWP.

With respect to impacts that may be experienced by water purveyors regulated by the Stockton District office of the DWP, the City of Tracy and the Little Potato Slough Mutual Water Company (LPSMWC) are the only current users of Delta Water. In the near future, the Mountain House Community Services District (MHCSD) may also be impacted.

2 Although it is not clear, the location of the intake of the LPSMWC at the intersection of Little Potato Slough and State Highway 12, on the eastern edge of the Delta, may adequately upstream and distant from the areas requiring treatment to minimize the concerns with respect to this water system. However, this is a relatively small water system that has its greatest water demand during the months of May through September. As a result, scheduling any treatment that might impact the source water to the remaining months of the year could mitigate any potential impacts. The water system has a fairly large water storage tank for the more limited demand when recreation is less significant. As a result, it may be possible to avoid taking water from the Delta for limited time periods when impacts may be a concern.

The City of Tracy takes its source water from the Delta Mendota Canal (DMC), which in turn takes water from Old River south of the Clifton Court Forebay. It

appears that this water is likely to be impacted. However, the City of Tracy uses well water as well as surface water. The City normally discontinues pumping from the DMC for a few weeks in the middle of the winter. If any treatment that might impact the water pumped into the DMC could be performed during that scheduled plant shutdown, it is likely that any impacts could be avoided. Similarly, it is possible that the timing of the shutdown of the Tracy plant could be arranged to occur at some time of year other than December and January, provided that the shutdown would occur during a period of lower water demand and the duration of the shutdown could be limited. These are details that would have to be arranged with the City.

3

The MHCSD will be taking water from the channel that connects the Clifton Court Forebay with the Harvey Banks pumping plant on the State Water Project. It is likely that the MHCSD will not be taking water from the Delta for the next year. Therefore, if treatments are completed before that time, all impacts will be avoided. Otherwise, the Mountain House demand is likely to be low initially, while the available storage of treated water will be large in relation to that start-up demand. Therefore, coordination of the timing of herbicide applications with the MHCSD could probably be arranged to minimize impacts by having the system utilize water from storage during periods of maximum potential impact.

4

With respect to the chemicals proposed for use, Reward appears to be the least desirable with respect to the potential impact on drinking water because of the low MCLG for diquat, the active ingredient. Perhaps the use of this chemical should be avoided in those situations where any of the chemical might reach the intake of a domestic surface water system. The risks related to the use of Sonor appear to be more manageable, since the MCLG is several times higher than the dose needed to treat the Egeria densa. Similarly, the action level for copper in the Department's Lead and Copper rule suggest that the risks associated with the use of copper sulphate may be the least significant of the three chemicals proposed. In addition, copper sulphate has been used to control algae in domestic water supply reservoirs for decades. Therefore, considerable experience with its impact on drinking water exists.

5

Thank you for the opportunity to comment on the draft EIR.

Joseph 0. Spano, P.E.

District Engineer
Drinking Water Field Operations Branch
Stockton Office

cc: State Clearinghouse
SDWSRF Environmental Coordinator

Aquatic Weed Control Program
Egeria Densa Draft EIR Comment Sheet
Fax (916) 263-0649

#5

Sally Mecham
P.0. Box 365
4830 Stone Road No.
4890 Stone Road No.
Bethel Island, CA. 94511-0365
(925) 684-3505

May 16,2000

As a waterfront homeowner of 29 years on Piper Slough, I was very pleased to see the EIR for the Egeria Densa Aquatic Weed Control Progam. I attended the public meeting in Antioch and was very pleased with the presentation. I feel the report and the meeting addressed the problems we are facing, and has proposed a comprehensive and ecologically sound program.

I enjoy and fully appreciate the water habitat wildlife, but I am also a boater and water-skier. I have seen sloughs that were once wide, passable and enjoyably skiable, narrowed to almost impassable swamps, clogged with Egeria and filled with silt. I and my family are all for the proposed control program and look forward to its implementation.

1 We are also members of Diablo Water Ski Club, located in area #31 of the Levels of Infestation map on page E-2. It appears that it will be an area in which treatment will occur. Will we have any say as to where in area #31 that treatment will occur? Obviously,

2 we would like to see treatment occur where our slalom course is located. Also it would be very helpful to know when and where treatments will occur, so that we in no way interfere in the progress. Possibly the schedule could be posted on the Web site.

Again, from my point of view, the sooner the program begins, the sooner some semblance of control can be achieved.

Sincerely yours,

Sally Mecham

Richard Mecham

Thomas Mecham

Amy Mecham

NORTH DELTA WATER AGENCY

910 - K STREET, SUITE 310, SACRAMENTO CALIFORNIA 95814-3512
TELEPHONE (916) 446-0197 FACSIMILE (916) 446-2404 e-mail ccvfca@jps.net

#6

May 16, 2000

Department of Boating and Waterways
Aquatic Weed Unit
2000 Evergreen Street, Suite #1 00
Sacramento, CA 95815-3888

Re: Comments on draft Egeria densa Control Program

Gentlemen:

We appreciate the opportunity to comment on your draft Environmental Impact Report on the Egeria densa control Program. We believe it is a thorough and reasonable report that covers the issues well. We would only suggest that it be included in the report to recommend to those responsible for any chemical applications that they determine if there is any possibility of damage to nearby crops through either
1 water borne chemicals entering irrigation diversions or by aerial drift. Irrigation diversions are numerous in the Delta and often difficult to locate since in many cases small siphons over the levees are used. The potential for any crop damage would vary with the type of chemical, type of crop and stage of the crop.

Please include us on your mailing list for information on this vital program.

Sincerely,

Robert D. Clark

State of California - The Resources Agency

#7

Memorandum

Date : May 17,2000

To : California Department of, Boating and Waterways
Aquatic Weed Program
2000 Evergreen Street, Suite 1 00
Sacramento, CA 95815-3896

From Department of Parks and Recreation Goldrush District/Deltas Sector

Subject : Egeria densa Control Program

The Department of Parks and Recreation, knowing the serious threat that Egeria densa poses to the natural and recreational resources of the delta, supports the Egeria densa Control Program as presented in the draft Environmental Impact Report.

However, two additions/amendments need to be incorporated in the report.

1 1. The Department of Parks and Recreation should be listed as a stakeholder. Franks Tract and Little Franks Tract are owned by the Department of Parks and Recreation and managed by the Delta Sector. Franks Tract is the single largest site for the EDCP.

.

2 2. The EIR does not describe methods to restrict the public from areas during application and periods of toxicity. The delta is a very popular area for boasting, fishing, waterskiing and swimming. Public usage of areas being treated should be anticipated. Proactive steps need to be in place prior to herbicide application to prevent contacts with the public. Some suggested steps should include posting information at local marinas, information in periodicals and newspapers, and patrol boat(s) on scene.

Thank you for the opportunity to comment on the EIR. The use of the CD format was a helpful tool in reviewing the EIR. If you need assistance or information, please contact us.

Sincerely,

S. Macy
Sector Superintendent, Delta Sector

Department of Pesticide Regulation

Paul E. Helliker
Director

MEMORANDUM **#8**

TO: California Department of Boating and Waterways
Aquatic Weed Control Unit
2000 Evergreen Street, Suite 100
Sacramento, California 95815

FROM: Douglas Y. Okumura, Acting Assistant Director
Division of Enforcement, Environmental
Monitoring, and Data Management
(916) 324-4100

DATE: May 18, 2000

SUBJECT: REVIEW OF *EGERIA DENSA* CONTROL PROGRAM DRAFT ENVIRONNENTAL IMPACT REPORT

The Department of Pesticide Regulation (DPR) is pleased to provide comments on the Draft Environmental Impact Report. Our specific comments are attached. If you have any questions about these comments or would like further information about accessing pesticide data collected by DPR, please feel free to contact Kathy Brunetti, of my staff at (916) 324-4100 or e-mail her at <brunetti@empm.cdpr.ca.gov>.

Attachment

cc: Kathy Brunetti, DPR

Egeria densa Control Program, Draft Environmental Impact Report
Comments from the California Department of Pesticide Regulation
May 18, 2000

Comments are in **bold type**; suggested additions are underlined; suggested deletions are in ~~strikeout type~~.

Chapter 3
Environmental Impacts of the EDCP
Section 3.5.2.1.1
Toxicity

This discussion touches upon the impact of inert ingredients on herbicide toxicity. The following overview is presented to clarify the treatment of inert ingredients during the herbicide registration process.

Herbicide compounds consist of an active ingredient and various inert ingredients, that is, ingredients that do not exhibit herbicidal activity. These substances perform secondary functions, such as aiding the thickening or dispersal of the active ingredient. Typically, information on inert ingredients is classified, and thus not available for publication. In some instances, toxicological effects can result from both the inert and active ingredients.

1

Federal and state law require that herbicides be registered prior to sale or use~~. Federal law requires that aquatic herbicides undergo a through evaluation and registration process before they can be shipped or sold in the United States.~~ Registration by the Cal/EPA Department of Pesticide Regulation (DPR) is required for sale or use of an herbicide in California. To obtain registration, manufacturers are required to conduct numerous studies (sometimes over 120 depending upon the intended uses). The registration process in California includes evaluation of human health acute toxicity data on the formulated product. The formulated product includes the active and the inert ingredients. Further, ~~they~~ manufacturers must submit a thorough and extensive data set to USEPA and to DPR to demonstrate that, under its conditions of use, the product would not pose a significant risk to human health and the environment and that the herbicide is effective against target weeds or plants. Although these documents are classified they are considered, under CEQA (Pub. Res. Code. Sec 21080.5), to be the functional equivalent of a full-scale environmental impact report. As such, these documents must include a discussion of environmental impacts, mitigation measure and alternatives. There is also a public comment period for proposed decisions.

All of the herbicides included in the proposed EDCP have been through this review process and are currently registered for use in California . Previous discussions of impacts resulting from Reward and Sonar use have covered toxicological effects of the active ingredients, as well as of the entire herbicide formulation. Thus, any impacts due to inert ingredients would have been covered in the discussions of the latter. However, any additional specific information that is available regarding the inert ingredients in Reward and Sonar is included in the toxicity discussion below.

Chapter 8
Project Alternatives
Section 8. I. 5
Chemical Control Methods

Chemical control methods (i.e., aquatic herbicides) are the most common and versatile management strategy for controlling nuisance aquatic plant populations. Chemical herbicides provide longer lasting control than mechanical methods, involve minimal labor and equipment, provide flexibility and predictability, and ultimately cost less. Aquatic herbicides can be applied to areas unreachable by other methods.

Hundreds of herbicides are registered for use in the United States. Only a limited number of these herbicides effectively control aquatic weeds ~~and also meet the rigid toxicology criteria necessary for registration~~. **All registered herbicides must meet these criteria**. Currently, herbicides containing the following eight active ingredients are labeled for use for aquatic sites:

2

Acrolein	Endothall
Copper	Fluridone
Dichlobenil	Glyphosate
Diquat	2,4-D.

It is not clear how this list was obtained. The California Department of Pesticide Regulation uses these seven categories to classify pesticides registered for use in aquatic Systems:
(29611) other aquatic organisms
(29645) weeds, aquatic
(61016) fish hatchery buildings and areas (non-aquatic)
(64006) wood protection-wooden aquatic structures, items
(65000) aquatic areas, water areas (all or unspec)
(65501) aquatic site-human/animal use (combined site)
(65503) aquatic site-industrial use (combined site)

3

A search of DPR's on-line product database shows that diquat dibromide, sethoxydim, and pendamethalin are all listed as registered herbicides for use for site *(29645) weeds, aquatic*. Sixty-seven herbicide products are listed for site. (65,000*)* aquatic areas, water *areas (all or unspec).* These products include the active ingredients dicamba, MSMA, oxyflurofen, hexazinone, trichlopyr, bromacil and others. Not all of these registered products may be appropriate for use in this project. We recommend that DBW consult

3 **with DPR staff to determine the best method for selecting and describing the list of registered herbicides that were considered al alternatives.**

4 **In addition, the document should specify which copper compounds (e.g. copper sulfate, copper ethylenediamine complex) and which forms of 2,4-D (e.g. amine, ester, amine salt) were considered.**

Appendix I
Background of Herbicides

Chemical Registrations
Every herbicide sold or used in California must be registered by the United States Environmental Protection Agency (EPA) and by the California Departrnent of Pesticide Regulation (DPP,) before the product can be sold or used in California. Before the DPR will register an herbicide, DPR toxicologists, entomologists, biologists, plant physiologists, chemists, and physicians evaluate extensive herbicide test data. Pesticide manufacturers also must submit studies of toxicology, efficacy, phytotoxicity, environmental fate for agricultural uses, including aquatic weed control, product chemistry, residue chemistry if used on a food or feed crop, and residue methodology as part of the regulatory approval process required of EPA and DPR.

Herbicide Ingredients
An herbicide formulation consists of an organic or inorganic active ingredient, an inert carrier, and perhaps an adjuvant. The active ingredient is the component of the herbicide that kills, or
5 otherwise controls, the target weed. The inert carrier is a substance that by itself does not add materially to the effectiveness of the herbicide. The adjuvant is a substance added to the herbicide that improves the effectiveness of the herbicide (e.g., by allowing the herbicide to adhere to the surface of the target plant).

Types of Herbicides
Herbicides break down by photolysis (i.e., they are broken down by light), hydrolysis and other chemical processes, microbial degradation, or metabolism by plants and animals. **This sentence does not seem to fit into a discussion of types of herbicides as herbicides are generally not classified by method of breakdown.** Herbicides commonly are classified as either a contact or a systemic herbicide. Contact herbicides act quickly and are generally lethal to all plant cells that they contact. Because of this rapid action, or other physiological reasons, they do not move extensively within the plant and are effective only where they contact plants. For this reason, they are generally more effective on annual (plants that complete their life cycle in a single year), herbaceous plants. Perennial (plants that persist from year to year) woody plants can be defoliated by contact herbicides but they quickly resprout from unaffected plant parts. Submersed aquatic plants that are in contact with sufficient concentrations of the herbicide in the water for long enough periods of time are affected but regrowth occurs from

unaffected plant parts, especially plant parts that are protected beneath the hydrosoil. Because the entire plant is not killed by contact herbicides, retreatment is necessary, sometimes two or three times per year.... (Langeland, 1998)

Systemic herbicides (systemics) are absorbed into the living portion of the plant and move within the plant. Different systemic herbicides are absorbed to varying degrees by different plant parts…. When applied correctly, systemic herbicides act slowly in comparison to contact herbicides. They must move to the part of the plant where their site of action is. Systemic herbicides are generally more effective for controlling perennial and woody plants than contact herbicides. Systemic herbicides generally have more selectivity than contact herbicides (Langeland, 1999).

Herbicides used by the DBW for treatment of *Egeria* are aquatic herbicides. The aquatic herbicides proposed for this project are non-persistent in water, or they degrade rapidly. **The term "aquatic herbicide" encompasses other products not being considered for this project, such as rice herbicides.** These ~~A~~aquatic herbicides are water-soluble and they quickly dilute to non-detectable concentrations. **This sentence is somewhat unclear. Does this mean**
5 **diluted in the mixing tank or diluted by the volume of water to which they are applied?**

Means of Implementing Chemical Control Methods

Aquatic herbicides are either in liquid or granular forms. **This is not correct. "Liquid" has a very specific meaning for formulations. Here are the formulations for the currently registered products:**

Reward	**aqueous concentrate**
Sonar A.S.	**suspension**
Sonar SRP	**pellets**
Komeen	**liquid and flowable concentrate**

We suggest the following:
The aquatic herbicides being considered for this project are formulated as liquids, suspensions , or concentrates. Products will be applied either as liquids, diluted concentrate or suspension, or as pellets.

Liquid aquatic herbicides ~~usually are~~ will be applied by boat using a hose dragged below the water surface over the entire target area, or ~~are~~ will be sprayed onto the, water surface. ~~Granular~~ Pelleted aquatic herbicides ~~are normally~~ will be applied over the treatment area with a bow-mounted broadcast spreader. Aquatic herbicides also ~~can~~ may be applied from a helicopter, an airplane, or sprayed from a truck, if permitted by the label.

Appendix M
Management Plan

Include the following statement:

6 Any suspected case of pesticide related illness or injury will be reported to the appropriate Agricultural commissioner. In addition, physicians treating suspected cases of pesticide-related illness or injury will be notified of their to report such cased by telephone to the local health Officer within 24 hours of examining the patient (Health and Safety Code Section 105200).

#9

Lauritzen Yacht Harbor

FOOT OF ANTIOCH BRIDGE
115 LAURITZEN LANE PHONE (925) 757-1916 OAKLEY, CA 94561-2946

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Serving the boating public since 1959

May 18, 2000

Mr. Carlton D. Moore
Interim Director
Aquatic Weed Unit
Department of Boating and Waterways
2000 Evergreen Street Suite 100
Sacramento, CA 95815-3888

RE: Draft report on the Egena densa Control Program.

Dear Mr. Moore and Commission Members,

Although I have not been able to read the entire draft report, I do have some strong feelings about the Egeria densa. (The waterweed).

1 Egeria densa is not just a Delta problem but is, also, a State problem. A key point for it to be picked up and transported to other bodies of water is on the bunks of boat trailers. Soon this weed will impact every fresh water body of water in the State if we do not try to stop its growth. There are a great number of black bass fishermen who use the Delta for tournament fishing. It's not uncommon to see black bass pros come from other states to fish the Delta. T'hey could rt this weed back to their own body of water in other states.

2 When Egeria densa is at its peak-growing season we can see it everywhere in the Delta. Sherman Lake, Frank's Tract most of the sand bars alongside the channel just to name a few problem areas. An area like Frank's Tract is not navigable at low tide.

There are over 1,000 boats berthed and dry stored around the Antioch Bridge area on the San Joaquin River. All of us have Egeria densa in our harbor basins and it's getting worse. At low tide it can be difficult getting in or out of a berth.

3 I urge the commission to fight the water weed with everything you have at your disposal from ınical to chemical means to get rid of this problem. If you could have the success with the water weed that you have had with the water hyacinth we all would be happy.

Thank you.

Sincerely yours,

Chris Lauritzen
Partner

May 22, 2000 **#10**

Carlton D. Moore
Interim Director
California Department of Boating and Waterways
Aquatic Weed Unit
2000 Evergreen Street, Suite #100
Sacramento, CA 95815-3888

Subject: Comments on the *Egeria densa* Control Program Draft EIR

Dear Mr. Moore:

The Contra Costa Water District would like to thank you for the opportunity to comment on your draft environmental impact report of the proposed *Egeria densa* Control Program. We view such programs as imperative to maintain the integrity of the Delta waterways and their beneficial uses. Your track record with the Hyacinth control program shows a capability to deal with such foreign species in an effective, yet environmentally sensitive, manner.
We respectfully submit the attached comments for consideration in the finalization of the subject EIR. If you have any questions or comments feel free to contact me at 925-688-8127 or by email at lmccollum@ccwater.com.

Sincerely,

Larry J. McCollum
Water Quality Superintendent

Cc: Dale Newkirk (CCWD)
Richard Denton (CCVVD)
Dennis Pisila (CCVVD)
Bill Hasencamp (CCWD)

COMMENTS FROM
CONTRA COSTA WATER DISTRICT
on
CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS
DRAFT EIR
Egeria densa CONTROL PROGRAM

Section 1.7.4

1 The District supports a scientifically sound test of the effectiveness of Komeen on the control of *Egeria densa.*

Exhibit 1-5

2 Reference should be made in the table to the fact that the active ingredient in Reward, diquat, has a health based primary maximum contaminant level (MCL) of 0.02 mg/L, as regulated by the State Department of Health Services.

Exhibits 1-18 #7, **and** 1-19, #7

3 Not aware of a probe that can measure hardness on a datasonde. This is generally either done by titration or by totaling the ions in a scan by ion chromatograph.

Section 2.4, second paragraph

4 Would suggest the following change for greater accuracy in the description: "...through the Contra Costa Canal supplying the cities of Oakley, Antioch, Pittsburg, Bay Point, Concord, Clyde, Clayton, Port Costa, and portions of Pleasant Hill, Walnut Creek and Martinez."

Section 2.12, last paragraph

5 The District current official count of population served by CCWD (raw and treated water) is 430,000.

Exhibit 3-2

6 Under "Chemical Constituents," a note should be made that diquat has a health based primary maximum contaminant level (MCL) of 0.02 mg/L, as regulated by the State Department of Health Services.

Section 3.1.2.2.1 - Sonar

7 The District is unaware of a primary MCL for fluridone. It is our understanding that fluridone is not currently regulated, or routinely monitored, in the Drinking Water standards. The referenced 0.15 mg/L limit is believed to be an agricultural limit; as such is not a MCL.

Chapters 3 & 4

8 Several references are made to the formation of THM precursors being an "Avoidable Significant Impact." The District contends that unless the effected biomass is removed from the Delta system this is, in actuality, an Unavoidable Significant Impact." The decomposition of the biomass will release the various

_organic carbon species that are the precursors to trihalomethane formation.

However, having stated that it must be recognized that even if left untreated the plants would eventually die and contribute their organic carbon to the Delta environment. The program, over the long haul, has the potential to reduce the available biomass, thus reducing this source of natural organic matter as THM precursors.

Appendix F

9 4. "Contra Costa Water District" not "Contra Costa Water Agency"

10 7. "Diablo Water District"

Appendix Q, **Page 68**

11 Clarification of what constitutes "a significant adverse impact" would be helpful.

Aquatic Weed Program
Attn: Pat Thalken
California Department of Boating and Waterways
2000 Evergreen Street, Suite 100
Sacramento, CA 95815-3896

May 22, 2000 **#11**

Dear Pat,

The SePRO Corporation appreciates the opportunity to provide comments on the Environmental Impact Report (EIR) prepared by the California Department of Boating and Waterways (DBW) for the Egeria Densa Control Program (ECDP). We can certainly appreciate the time and effort that went into producing this document; however, we have comments on several of the recommendations that pertain to the use of the herbicide Sonar.

Sonar--MCL

The Environmental Protection Agency's Office of Ground Water and Drinking Water has as one of its mandates the protection of drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in public water systems. These are contaminants for which the Agency says there are potential health effects from ingestion of water. As a part of this regulation, the Agency sets a Maximum Contaminant Level (MCL) for each of these contaminants. The MCL is identified as, "the maximum permissible level of a contaminant in water that is delivered to any user of a public water system." MCL's are enforceable standards.

A MCL has not been required for fluridone since there are no potential health effects from ingestion of water where Sonar is used according to its labeling. The Environmental Protection Agency, Office of Pesticides and Toxic Substances registered the use of Sonar as an aquatic herbicide. At the time of its registration the Agency said, "The Agency is designating an acceptable residue level for fluridone in potable water of 0.15 ppm. This concentration reflects the maximum application rate for the herbicide registration(s) issued pursuant to FIFRA." The Agency has not changed its position with fluridone since its federal registration in 1986. **1**

SePRO believes that it would be appropriate to modify language in the Draft Environmental Impact Report on pages 3-15, 3-22, 3-72 and any other locations in the Draft Document referring to a MCL for fluridone since there is not an established MCL for fluridone. Language should be modified to state that the acceptable level of fluridone in potable water is 0.15 ppm.

Sonar—Health Risks

Page 3-72: The first sentence under the Sonar section states, "There are also health risks associated with consumption of water treated with Sonar." SePRO believes this to be an incorrect statement and contradicts health and safety data. Additionally, regulatory agencies would not have allowed the labeling where consumption of water is permitted after a Sonar application at its maximum application rate of 150 ppb if the health and safety data did not support this use. Labeling does state that application greater than 20 ppb must be made greater than ¼ mile of a potable water intake. This distance is required to ensure that adequate mixing of fluridone in the water column has occurred where concentrations do not exceed 150 ppb. **2**

3

Page 3-77 (Buffer Zones): The Draft Report states: "to avoid drinking water quality impacts (e.g., influx of diquat and fluridone), a one-mile buffer zone would be established around water treatment plant intakes. No treatments would occur within this buffer zone while utilities are drawing water. Treatments within buffer zones would be coordinated with utilities. The DBW would coordinate with the appropriate public water agencies to establish buffer zones." As noted above, regulatory agencies, including Federal EPA and CAEPA, have agreed with Sonar labeling that applications greater than 20 ppb must be ¼ mile from a potable water intake and concentrations less than 20 ppb may be made at a potable water intake.

4

Page 3-73 (Sonar): While SePRO agrees with the conclusion of the Draft Report on Consumption of Fish or Aquatic Organisms Exposed to Herbicides, alternative wording is proposed. For the sentence, "Considering the rapid dilution of fluridone in the water column and the low target concentration for the herbicide, it is unlikely that bioaccumulation would occur to any significant degree," SePRO proposes, Considering the rapid dissipation and dilution of fluridone in the water column and the low target concentration for the herbicide, impacts to human health due to bioaccumulation of Sonar in tissues of fish and aquatic organism would not be significant.

Program Flexibility:

5

While the stated goal of EDCP program is to be flexible, the document suggests that most of the priority target treatment areas and control measures have been chosen for a 5 year timeline. Language to allow changes in control methods at each site based on management practices that provide optimal Egeria control from year to year should be considered. Moreover, the current program would provide little flexibility for new application strategies that may significantly enhance control. As the program becomes operational and matures, control strategies that provide superior control will likely emerge. Flexibility to change treatment options to those strategies which provide optimal egeria control with minimal negative environmental impacts should be addressed in the Draft EIR.

Sonar- Application Rates and Timing:

6

The Draft EIR mentions that Sonar will be used at rates of 10-20 ppb and will be applied in up to 12 applications. This language should be modified to reflect the varying use patterns that are likely for Sonar in the Sacramento Delta. While the optimal target concentration in the water is between 10-20 ppb, treatment strategies used to achieve these rates will often differ. For example, the slow release pellet (SRP) granular formulation should be applied at much higher rates to achieve the target concentration of 10 to 20 ppb. Use of the liquid A.S. formulation will result in maximal concentrations at the time of treatment and therefore use rates will actually reflect the 10-20 ppb stated in the Draft EIR. When dilution is expected, split applications of both the A.S. and SRP formulations are utilized to maintain efficacious concentrations and exposure. The treatment frequency, rates, and formulation will vary greatly between treatment sites depending on the characteristics of the treatment area (size, depth), potential for dilution, and treatment objectives (selective control vs. elimination of vegetation).

In addition, it is likely that as more is learned about the efficacy of Sonar in the Sacramento Delta, use recommendations may change to reflect different use patterns from those used today. For example, Sonar works best on actively growing vegetation

7

when the biomass is low. Based on these criteria, Sonar treatments in late January through March would likely prove optimal control based on the phenology of the Egeria. While the plants tend to be more dormant from November through January, by late January new growth is obvious. In the current Draft EIR, applications are proposed from March through November. The flexibility to treat when Sonar has the greatest likelihood to achieve successful results may require altering the current Draft EIR to include Sonar treatments in January and February. Earlier treatments would also have less impact on irrigation practices. Adding flexibility to the current Draft EIR to allow earlier treatments will serve to improve the chances for successful Egeria control while not increasing the potential for a negative impact on the environment. It is likely that Sonar treatments conducted after August, would provide marginal control due to higher biomass and slower growth rates.

Sonar – Maximum Treatment Acreage:

8

Page 3-25 of the Draft EIR contains language that states the maximum acreage that the DBW would treat would be no more than 20 acres at a given site over a 14-day period. This mitigation measure is proposed to prevent impacts to dissolved oxygen. On page 3-17 of the Draft EIR it is noted that the use of Sonar would not adversely impact dissolved oxygen. Several years of experience with Sonar use following large-scale treatments (up to thousands of acres) indicate that decreases in dissolved oxygen are not associated with Sonar use. Moreover, larger treatment blocks in areas where dilution is expected generally provide the best control when using Sonar. Based on experiences with Sonar, impacts to dissolved oxygen are not likely and treatments of greater than 20 acres should not adversely impact water quality.

Sonar- Impacts on Non-Target Species, Intertidal Wetland Plants, and Vegetation Growing on the River Banks.

9

In the Draft EIR, the "unavoidable significant impacts" for Sonar use listed for birds, reptiles/amphibians, and insects are related to loss of wetland and river bank vegetation. This classification does not accurately reflect the intended use of Sonar in the Sacramento Delta. In the Draft EIR it is clearly stated that areas containing dense infestations of Egeria will be targeted. Moreover, the Draft EIR indicates that the threat to native submersed plants in these areas would be "Less than Significant". The fact that wetland communities are not likely to receive direct applications along with the greater tolerance to Sonar for emergent species suggests that injury to wetland species should be minimal. While temporary chlorosis of new shoot growth is often noted on wetland plants such as cattails and tules, large-scale loss of wetland vegetation is not characteristic of low-rate Sonar applications. Furthermore, emergent woody species growing along the river bank such as Northern California black walnut and elderberry (intermediate in susceptibility) are generally not impacted by low-rate Sonar applications. Given the likely use patterns and use rates of Sonar in the Sacramento Delta, both the direct threat to wetland vegetation as well as the indirect threat to birds, reptiles/amphibians, and insects from subsequent habitat loss should be considered for designation as "Less than Significant Impacts"

Sonar- Potential Formation of Trihalomethane

There are several references in the Draft EIR suggesting that herbicide treatments near potable water intakes will be prohibited due to the decaying vegetation increasing organic carbon loads and thus increasing the potential for formation of trihalomethane

(THM) when the water is chlorinated. In our view, the continuous presence of a dense stand of actively growing vegetation presents the greatest risk for increased organic carbon loading near a potable water intake. Moreover, due to the mode of action of Sonar, the very slow nature of plant death does not represent an increased risk for a large spike of organic carbon into the water. Removal of the vegetation near the potable water intakes would likely represent the best long-term strategy for reducing the risk of THM formation. As previously noted, Sonar at rates of less than 20 ppb can be used within ¼ mile of a potable water intake without use restrictions.

10

Sincerely,

Michael D. Netherland, Ph.D
Aquatic Research and Develop.
SePRO Corp.

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
132S J STREET
SACRAMENTO, CALIFORNIA 95814-2922

#12

May 22, 2000

Environmental Resources Branch
Mr. Carton D. Moore
Department of Boating and Waterways
Aquatic Weed Unit
2000 Evergreen Street, Suite 100
Sacramento, CA 95815-3888

Dear Mr. Moore:

We have received your draft of the Egeria densa Control Program Draft Environmental Impact Report transmitted by your undated letter and have no major comments from a plan formulation perspective. In general, the proposed actions are consistent with ongoing flood damage reduction efforts in the Sacramento and San Joaquin River Basins. Removal of noxious weeds from area waterways is a viable measure of ensuring or increasing flow capacity. **1**

While navigation is a major reason for the proposed actions, there is little effort put into quantifying impacts. In fact, the report is totally silent on the increased boating benefits that are attributable to the control program. **2** **3**

A Department of the Army permit from Sacramento District Regulatory Branch is not required for the project provided the work is conducted as proposed in the above document. The proposed work is not a type, as defined at 33 CFR 322.2, which requires a Section 10 permit Provided there is no discharge of dredged or fill material into waters of the United States, including wetlands, no Clean Water Act Section 404 permit is required. **4**

If you have any questions regarding these comments, please call M& Karin Lee, Social Sciences Technician, at (916) 557-7987,

Sincerely,

Mark Capik
Chief, Planning Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

#13

May 22, 2000 F/SWR4:CT

Department of Boating and Waterways
Aquatic Weed Control Unit
2000 Evergreen Street
Sacramento, California 95815

Dear Sir or Madam:

Thank you for the opportunity to provide comment on the chemical controls proposed for the *Egeria densa* Control Program (EDCP). The National Marine Fisheries Service (NMFS) is concerned about potential adverse effects on threatened and endangered species of chinook salmon and steelhead trout from exposure to diquat (Reward), fluridone (Sonar), and copper (Komeen) used in the EDCP. This letter is restricted to commentary on the EDCP, should not be construed as a letter of concurrence of "no effect" on threatened and endangered species occurring in the waters of the Sacramento-San Joaquin Delta Region.

1 The NMFS has general concerns regarding the use of the aquatic herbicides diquat, luridone, and copper. The large biomass of decaying plant material generated once the herbicides exert their toxic effect on *E. densa* will create an extremely large biological oxygen demand that will be maximal after sundown, resulting in conditions that could suffocate fish. The monitoring of dissolved oxygen prior to herbicide applications appears an inappropriate mitigation measure. The NMFS prefers the mechanical removal of *E. densa,* and suggests removal of dead *E. densa* when aquatic herbicides are used to reduce the biological oxygen demand. Mechanical based control methods may still harm listed species, but are preferable to chemical control methods that create large biological oxygen demands, pose toxicological hazards to salmonids, or permanently alter critical salmonid habitat.

2

3 Diquat (Reward), although listed for elodea control, does not appear to be a good aquatic herbicide for use in turbid Delta waters because the active ingredient binds quickly to particulate matter and reduces the proportion of diquat available for direct contact with *E. densa,* thus decreasing effectiveness. The MSDS for the formulation of diquat, Reward, states that Reward is toxic to fish and wildlife, but does not indicate which species of fish, and what concentration of Reward is toxic to fish. The NMFS has limited toxicological data for rainbow trout and chinook salmon indicating an 8-hour LC50s of 12.3 mg/L and 28.5 mg/L respectively. The NMFS requests toxicological information for longer exposure durations be obtained for rainbow trout

4

and chinook salmon and compared to the target concentration of Reward in the EDCP.

5 The target concentration for Reward as stated in the EDCP (0.5 mg/L) is greater than the maxi application rate stated on the product label (0.37 mg/L). The NMFS requests that target concentration be revised in the EDCP to reflect the product label. Failure to comply with label restrictions is a violation of applicable state and Federal laws.

6 Fluridone (Sonar) appears to be of limited use for *E. dense* control in Delta waterways. Systemic herbicides require a long exposure time to exert their toxic effects on *E. densa.* Consequently, fluridone can only be used in areas with minimal flow so that dilution of the active ingredient is minimized. The use restrictions for fluridone will

7 exacerbate biological oxygen demand problems, because water with high dissolved oxygen will not be able to refresh treated areas due to low flow conditions. Fluridone

8 (Sonar) is toxic to salmonid fishes. The 96-hour LC50 for rainbow trout ranges between 4.25 and 8.4 mg/L with the average; LC50 being 6.6 mg/L. The potential for exposure to fluridone (Sonar) is greater than exposure, potential for diquat (Reward) because the treatment regimen is designed to maintain target concentrations through repeated applications over a 42 to 126 day period, a duration greater dm the product label states as necessary for control (30-90 days). The target concentration of 0.2 mg/L

9 for both Sonar formulations as stated in the EDCP is greater than the maximum application rate stated on the product label (0.075 - 0.15 mg/L). The NMFS requests that target concentration and exposure duration be revised in the EDCP to reflect the product label. Failure to comply with label restrictions is a violation of applicable state and Federal law.

Copper (Komeen), although limited to an experimental chemical control treatment in the EDCP, has several disadvantages. Komeen contains 8% elemental copper by

10 weight, and is applied to the treated area at concentrations ranging from 0.5 to 0.75 mg/L (500 to 750 µg/L). The product labeling for Komeen states that "trout and other species of fish may be killed at application rates recommended on this label". Indeed, the rainbow trout 24-hour LC50s for copper compounds range from 32 to 150 µg/L.

11 The acute ambient water quality criteria (CMC) for copper promulgated in the California Toxics Rule is 13 µg/L (at 100 mg/L hardness). The CMC for copper is hardness dependent, and is expressed as the dissolved concentration of copper, so the actual CMC for the Delta may be slightly higher or lower. Regardless, the target concentration of copper (Komeen) will be approximately 38 to 58 times greater than the water quality standard for aquatic life. The environmental safety of copper is of special concern to the NMFS because copper (an element), unlike organic chemical herbicides does not degrade, and becomes a permanent part of the Delta ecosystem.

12 The label also states that "the activity of Komeen may be reduced if silt or algae are present in the water or cover the weeds". Delta waters are known to be very turbid, and have high algae counts, suggesting that Komeen may not be a good choice for use in the

13 Delta. The National Marine Fisheries Service cannot endorse the use of Komeen or other copper based herbicides in the EDCP.

T'he National Marine Fisheries Service hopes that these comments will help the California Department of Boating and Waterways to revise its EDCP to be more protective of the aquatic resources, listed species, and critical habitat occurring in the Delta. We look forward to providing commentary on revised editions of the EDCP.

If you have questions please contact Dr. Christopher Tatara at (707) 575-6094.

Sincerely,

James R. Bybee

Habitat Program Manager

Northern California

CC: Mike Aceituno, NMFS Sacramento Office

U.S. BUREAU OF RECLAMATION
2666 NORTH GROVE INDUSTRIAL DRIVE
SUITE 106
FRESNO, CALIFORNIA 93727-1551
Fax: (559) 487-5397

#14

May 24, 2000

Aquatic Weed Program
California Department of Boating and Waterways
2000 Evergreen Street, Suite 100
Sacramento, California 95815-3896

RE: Draft EIR for the Egeria densa Control Program

Ms. Delgado:

U.S. Bureau of Reclamation comments regarding the subject draft document are provided below.

1. Page 1 - 20, 1.7.1.2, para. 2: ABecause of the long uptake time needed for absorption and herbicidal activity, Sonar may be ineffective in flowing water due to rapid dilution. Like Reward, Sonar-treated water may be injurious to irrigated vegetation. For these reasons, Sonar will not be the primary EDCP control method.≅

1 California Department of Boating and Waterways should consider using Sonar SRP before selecting Reward as the primary chemical control method. According to SePro, Sonar SRP is effective in flowing water. Both Reward and Sonar-treated water may be injurious to desirable foliage, however, damage from improper application of Reward will be visible in several days. In addition, Sonar is effective in muddy water and may have minimal effects on aquatic invertebrates and fish. A combination of Sonar A.S. and Sonar SRP treatments may be the best control strategy in the Delta.

2. Page 1-21, para. 1: AFluridone may remain in bottom sediments for four months to one year.≅

2 Fluridone is degraded by sunlight and microorganisms. The speed of photodegradation is largely governed by the intensity and duration of sunlight and depth and turbidity of the treated water. In studies conducted by SePro, Fluridone photodegraded to 50% of its initial concentration within four weeks after application to water.

3 3. Page 1-34, 1.9: Monitoring Program should include a discussion of proposed

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monitoring procedures for public safety, domestic animals, and non-target wildlife.

4. Page 1-44, para. 1: AThe DBW expects that the U.S. Fish and Wildlife Service would evaluate the potential for adverse impacts and issue a Biological Opinion, regarding the proposed EDCP…≅

4 CDBW should consult with NMFS on potential adverse impact of the proposed project on anadromous fish in the Delta.

5. Page 8-9, para. 1: AThe environmentally superior alternative is Alternative 4.≅

5 We have several environmental and health concerns: California Department of Boating and Waterways proposes to use a target concentration of Reward, 18.5 times higher than the maximum contaminant level goal and CDBW has no information on the identity or concentration of a carcinogen in the inert ingredients. This inert ingredient in Reward may pose a potential risks to pesticide applicators, public health and the environment. CDBW should consider an additional alternative, EDCP with Sonar (Alternative 8).

If you have questions regarding our comments, please contact me at (559) 487-5112.

Sincerely,

Willie J. Roberts

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

#15

May 26, 2000

TA-SA-00-6

Carlton D. Moore
Interim Director, Department of
Boating and Waterways
Aquatic Weed Unit
2000 Evergreen Street
Sacramento, California 95815-3888

Dear Mr. Moore:

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the proposed *Egeria densa (Egeria)* Control Program (EDCP) and the Two-Year Komeen Research Trials, prepared by the California Department of Boating and Waterways (DBW). Assembly Bill 2193 (AB 2193, Rainey, Sel2tember 23, 1996) designated the DBW as the lead agency for development of a control program for the aquatic weed *Egeria* in the Sacramento-San Joaquin Delta and Suisun Marsh.

Project Summary

Egeria is a non-native submerged aquatic macrophyte that grows in dense mats throughout the Delta. In the 40 years since *Egeria* was introduced to the Delta, it has grown to infest approximately 3,900 surface acres, or eight percent of the 50,000 surface acres of Delta waterways. Egeria hinders navigation, disrupts recreational activities, clogs agricultural irrigation intakes, slows water conveyance, displaces native vegetation, and upsets the balance of the aquatic environment.

The three state-registered control methods proposed for EDCP treatment sites are: 1) contact herbicide Reward@ (active ingredient Diquat); 2) systemic herbicide Sonar® (active ingredient Fluridone) in liquid A.S. and granular SRP forms; and 3) mechanical harvesting. Thirty-five priority sites would be treated according to flow characteristics: Reward would be applied in fast moving waters (76% acreage); Sonar would be applied in slow-moving, quiescent waters (21 % acreage), and mechanical harvesting would be used to gain immediate control of 3% of the treatment acreage. Based on the proposed 5-year treatment period, the DBW would annually apply 10,600 gallons of Reward, 300 gallons of Sonar A.S., and 13,500 pounds of Sonar SRP to Delta waters. Treated acreage would total 1,583 in years 1-2, and would be increased to 1,733 acres in years 3-5. All of the proposed treatment sites occur in the Delta; there is currently no evidence of *Egeria* found within Suisun Marsh.

In addition to the *Egeria* control program, the EIR addresses environmental impacts generated by two years of proposed research trials on the aquatic herbicide Komeen@ (active ingredient copper). Komeen would be applied to the Delta at three 50-acre sites twice per year for two years, resulting in treatment of 150 acres each year. Applications would be made to achieve a water column concentration of 0.75-ppm copper. Approximately 6,075 gallons of Komeen would be applied to the Delta annually. The three primary components of the Two-Year Komeen Research Trials are: monitoring of sediment copper concentration, assessment of Komeen/copper bioaccumulation in target and non-target organisms, and laboratory toxicity studies.

Specific mitigation measures for the *Egeria* control program are proposed by the DBW to avoid or minimize potential impacts where available. There will be pre-treatment and post-treatment monitoring for biological, chemical, and physical indicators associated with each control. Consultation with various state and federal agencies regarding impacts and mitigation measures for future revisions or additions to the mitigation measures will be on-going.

General Comments

1 The Delta is designated critical habitat for endangered Sacramento River winter-run chinook salmon *(Oncorhynchus tshawytscha),* threatened Central Valley spring-run chinook (0. *tshawytscha),* and threatened Central Valley steelhead *(0. mykiss).* It is a major corridor for adult and juvenile salmonid migration, including candidate species Central Valley fall/late fall run chinook *(0. tshawytscha).* Juvenile salmon often enter the Delta before they are physiologically able to enter salt water, and rear there several months before migrating to the ocean. The proposed March through November implementation of *Egeria* control measures would occur during the upstream migration of adult winter-run, spring-run, fall- and late-fall run chinook, and steelhead; and during the emigration of juvenile winter-run, spring-run, fall and late-fall run chinook, and steelhead. Virtually all runs of chinook salmon and Central Valley steelhead utilizing the Delta could be directly or indirectly impacted by the EDCP.

2 There is particular concern over the shallow water "nursery areas" to be chemically treated. Juvenile salmonids favor intertidal and shallow subtidal areas which provide a rich food supply and protective cover. Salmon fry move from tidal channels during flood tide to feed in nearshore marshes. They scatter along the edges of the marshes at the highest points reached by the tide, then with receding tide, retreat into channels that dissect marsh areas and retain water at low tide. Larger fry and smolts tend to congregate in surface waters of main and subsidiary slough channels and move into shallow subtidal areas to feed. Although there is some preliminary research evidence

3 that salmon and steelhead may not utilize *Egeria,* the juvenile salmonids inhabiting the Delta would be vulnerable to indirect impacts from the chemical and mechanical harvesting controls, such as reduced food supply and chronic toxicity effects.

4 The greatest potential impact of the EDCP is a potential major spill of toxic chemicals which couldleadtomortalityofeithermigratingadultsorjuvenilesholdingintheriver. The reported residual copper readings taken up to 1000 feet from the treated research plot in Sandmound Slough corroborates movement of Komeen with the tidal flows, and possible impacts to native vegetation and fauna associations outside of the treated areas over a 24 hour time span. Copper compounds are toxic to fish and must be used with extreme care. Also, copper does not break down and can accumulate in sediments. It is known to damage the gills and interfere with respiratory function in fishes. Copper can have adverse effects on the behavior, physiology, and reproduction function of fish, damage tissue and organs, and result in mortality from either acute or chronic toxic effects. Despite all the proposed avoidance and mitigation measures stated in the EIR, this toxicant is our biggest concern of the EDCP.

5

Specific Concerns

Our specific concerns include the following:

6 Bioaccumulation of copper in the tissue of salmon and steelhead.

7 Rate and accumulation of dissolved and ionic copper in the sediment profile.

8 The temporary loss of aquatic invertebrate prey base for fry and juveniles. Twenty acres per treatment site per day is a large area, especially if intact. What is the maximum number of acres that could be impacted in a day?

9 Decrease in oxygen concentrations in the treated areas.

10 The type of environmental conditions that could initiate ionization of elemental copper in the sediment.

11 The cumulative direct and indirect effects that can be expected in the Delta environment after 5, 10, 20, (etc.) years of program implementation. It is assumed that the EDCP will continue on some basis for as long as there is the presence of *Egeria* in the Delta.

Specific Comments

12 The effect of the controls is dependent upon water quality characteristics. It would have been helpful to this evaluation if the EIR had included a summary of the water quality parameters of the Delta as they change during the year. The monitoring levels

13 were summarized for each EDCP method; however, there was no discussion of the rating criteria for significance levels in the indicator analysis. There was also

14 confusion regarding the application concentrations of chemical controls. Exhibit 1-7, Estimated EDCP Chemical Application Summary, lists the application concentrations of Reward and Sonar treatments at 0.37 ppm and 0.02 ppm respectively. However, under Appendix L, Herbicide Treatment Protocols, the target concentrations are 0.5

ppm for Reward and 0.2 ppm for both forms of Sonar. NMFS comments on specific toxicological impacts of the proposed EDCP have been provided separately (see attached letter dated May 22, 2000).

These comments are not intended to take the place of any formal comments or consultation that may be required under the Endangered Species Act of 1973, as amended (ESA). Consultation for purposes of compliance with the Endangered Species Act, including requests for concurrence of a determination of not likely to adversely affect, should be initiated through a federal sponsor (e.g. U.S. Department of Agriculture). The federal sponsor will initiate formal consultation with NMFS under Section 7, including a formal request for concurrence with findings and/or the request for a Biological Opinion. If you have any questions, please contact Shirley Witalis at (916) 498-6490.

Sincerely,

Rodney McInnis
Acting Regional Administrator

Attachment
cc: James Lecky, ARA-PR, NMFS, Long Beach, CA
Chris Tatara, NMFS
Paul Hanna, USFWS
Sacramento Admin file

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
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2929

#16

Contact Phone: **(916) 574-**

1868

Contact FAX. **(916) 574-**

1885

May 26, 2000

File Ref: SCH#1998112072

Mr. Carlton D. Moore
California Department of Boating and Waterways
Aquatic Weed Program
2000 Evergreen Street, Suite 100
Sacramento, CA 95815-3896

Dear Mr. Moore:

Staff of the California State Lands Commission (CSLC or Commission) has reviewed the proposed DEI R for the Egeria densa Control Program, SCH#L 998112072. The CSLC is a responsible/trustee agency under the California Environmental Quality Act. We apologize for the lateness of these comments and appreciate their consideration by the Department. Based on this review, we offer the following comments.

Jurisdiction

1

By way of general background, the State acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all the people of the State for statewide Public Trust purposes that include waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The landward boundaries of the State's sovereign interests are generally based upon the ordinary high water marks of these waterways as they last naturally existed. Thus, such boundaries may not be readily apparent from present day site inspections. The State's sovereign interests are under the jurisdiction of the CSLC. Any activities involving these lands are subject to the Commission's leasing requirements. Please contact Diane Jones, (916) 574-1843, Public Land Management Specialist, concerning the Commission's leasing requirements.

Environmental Review

2

lntertidal Wetland Plant Communities - pg. 3-31

The document states that wave-wash or flooding during high tide could adversely impact intertidal wetland plant communities if herbicide concentrations in the channel water are at treatment levels. It further discusses how loss of sensitive plant species in these communities may occur. Finally, it states that neither the extent of acreage of potential impacted nor the intensity of the impacts is known.

Using historical sightings, records, and aerial photo interpretation, estimates of acreage of potential impacts and intensity of impacts should be modeled.

Insects - pg. 3-36

3 The document states that the EDCP may impact elderberry trees, which are protected as habitat for the Federally threatened valley elderberry longhorn beetle. This in turn will affect Valley elderberry longhorn beetles, which are tied to their host plant. An estimate of the number of trees that may be impacted should be made, and appropriate mitigation, such as planting of new trees, specified in the document.

Birds - pg. 3-54

4 'The document states that Sonar could result in loss of intertidal wetland vegetation, which may serve as habitat for certain birds, including special status species. An estimate of the amount of such vegetation that may be lost should be made, along with mitigation to restore or compensate for these losses.

5 Mechanical Harvesting may impact birds that nest along channel banks during staging or maneuvering activities, or when equipment is placed along channel banks. Efforts should be made to avoid nesting habitat.

Mitigation Measures for Impacts to Biological Resources

Plants - pg. 3-58

6 The document states that prior to herbicide application, a qualified botanist would survey channel banks adjacent to treatment sites to determine whether sensitive plant species are present. It suggests that if the site exhibits a high percentage of intertidal wetland communities and associated sensitive plants, the site may not be treated. What constitutes a high percentage and will DFG and USFWS botanists be consulted in this effort.

Wildlife - pg. 3-60

7 The document states that prior to mechanical harvesting, a qualified wildlife biologist would survey channel banks and uplands adjacent to treatment sites to determine whether special status reptile, amphibian, or bird species are present. It then mentions that no staging or mechanical harvesting equipment would be allowed in areas that show evidence of such species or which exhibit ideal habitat conditions. What type of buffer distance will be established to protect such species?

Mitigation Measures for Agricultural Resources - pg. 3-63

8 The document states that local landowners could be informed of the particular periods of time during which irrigation should not occur. This should be revised to states that they would be informed of the particular period of time during which irrigation should occur, based on the results of monitoring the concentrations of Reward and Sonar after application.

Mitigation for Impacts Related to Hazards

Human Health - pg. 3-77

9 One-mile buffer zones around water treatment plant intakes are proposed to avoid drinking water quality impacts. How long after a treatment within a buffer zone will the intake of water be conducted by the public water agencies? Will this be determined based on review of the monitoring results and coordination with the agencies?

Environmental Impacts/Consequences on Recreation - pg. 3-82

10 The document states that DBW staff could limit water-dependent recreational activities in and. adjacent to treatment sites. This should be revised to state that such activities would be limited, as necessary, by authority of DBW staff to minimize the public's exposure to the herbicides.

Mitigation for Impacts Related to Hazards - pg. 4-65
Human Health

11 The document states that 1 -mile buffer zones would be established around water treatment plant intakes and that DBW would coordinate with appropriate public water agencies to establish the buffer zones. Would such coordination be based on the results of monitoring following application of the herbicides? Furthermore, drawing of water

12 through the intakes should not be done until results of monitoring show that it is safe to do so.

Biological Resources - pg. 5-4
lntertidal Wetland Plant Communities

13 The document states that sensitive intertidal wetland plant communities occurring along Delta channels and on in-channel islands would potentially be impacted by EDCP herbicide treatment and that this would be an unavoidable significant impact. DBW should monitor the losses of these sensitive plants and mitigate for such losses by restoration and re- colonization efforts.

We appreciate the opportunity to comment on this environmental document. Please contact Diane Jones at (916) 574-1843, concerning the Commission's leasing jurisdiction. You may contact Kris Vardas at (916) 574-1877, concerning the environmental review comments. We look forward to receiving the FEIR when it is available.

Sincerely,

Mary Griggs
Assistant Chief
Division of Environmental
Planning and Management

cc: Diane Jones
Kris Vardas

Department of Toxic Substances Control

Edwin F. Lowry, Director
400 P Street, 4th Floor, P.O. Box 806
Sacramento, California 95812-0806

#17

May 31, 2000

Department of Boating and Waterways
Aquatic Weed Unit
2000 Evergreen Street, Suite 100
Sacramento, California 95815-3888

1 The Department of Toxic Substances Control (DTSC) has reviewed the documents *"Egeria densa* Control Program: *Volume /: Draft Environmental Impact Report;* and *Volume //: Rese6rch Trial Reports,* in light of our previous comments regarding the potential for mechanically harvested *Egeria densa* to be a potential hazardous waste. The information presented to DTSC, referenced in Volume 1, Section 1.7.2.2, is sufficient to address our previous comments. In addition, the continued monitoring of treated *Egeria densa* for herbicide content, referenced in Volume II, Report 1, will also suffice to answer any future questions regarding the waste classification of harvested *Egeria densa.*

Thank you for the opportunity to provide comment on the *Egeria densa* control program.

Sincerely,

Bob Borzelleri
Chief Deputy Director

Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

#18

From THE RECLAMATION BOARD

Subject: State Clearinghouse No. 1998112072

Staff for The Reclamation Board has reviewed the environmental document provided by SCH and provides the following comments:

1

The proposed project may be located within or adjacent to floodways and/or levees over which the Board has jurisdiction. Section 8710 of the California Water Code requires that a Board permit must be obtained prior to start of any work, including excavation and construction activities within floodways, levees, and 25 feet landward of the landside levee toes. A list of streams regulated by the Board is contained in the California Code of Regulations, Title 23, section 112.

Section 7 of the Regulations states that additional information, such as geotechnical exploration and analysis, soil testing, hydraulic or sediment transport studies, biological surveys, environmental surveys, and other analyses, may be required at any time prior to Board action on the application.

Section 8 of the Regulations states that applications for permits submitted to the Board must include a completed environmental questionnaire that accompanies the application and a copy of any environmental documents that have been prepared for the project. For any foreseeable significant environmental impacts, mitigation for such impacts shall be proposed. All applications are reviewed for compliance with the California Environmental Quality Act

If you have any questions, please contact me.

Carol Birch, Chair
Environmental Review Committee
(916) 653-9898

cc: Lead Agency

California Regional Water Quality Control Board

Central Valley Region

Steven T. Butler, Chair

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#19

30 June 2000

Mr. Don Waltz
Chief, Boating Facilities Division
California Department of Boating and Waterways
2000 Evergreen Street, Suite 100
Sacramento, CA 95815-3888

COMMENTS ON EGERIA DENSA CONTROL PROGRAM DRAFT EIR

Thank you for the opportunity to comment on the March 2000 *Egeria densa* Draft Control Program Environmental Impact Report. Board Staff has prepared a list of comments addressing the potential water quality impacts of the *Egeria densa* Control Program and the Two-Year Komeen Trials. These comments are enclosed.

Should you or your staff have any questions, please contact me at (916) 255-3104.

Phillip Crader
Agricultural Unit

Enclosure

29 June, 2000

Comments on March, 2000 Egeria densa Control Program Volume 1: Draft Environmental Impact Report

1. Page E-3; "The DBW does not intend to continue the EDCP if the program does not meet its objectives. Should the DBW determine at any point during the five-year period that the EDCP is ineffective, the DBW would recommend to the legislature and appropriate regulatory agencies that EDCP activities cease." The method for determining whether the program is meeting its objectives should be detailed. How does this project quantify performance goals?

2. 78% of the project acreage is proposed to be treated with Reward (Diquat) at a target concentration of 370 µg/L. The National Ambient Water Quality Criteria (U.S. E.P.A.) instantaneous maximum concentration intended to protect freshwater aquatic life is 0.5 µg/L. Diquat application target concentration is 740 times greater than the U.S. E.P.A. criterion.

3. Komeen application target concentration is 500 to 750 µg/L, which far exceeds the Basin Plan objective of 10 µg/L for copper concentration.

4. Provide documentation that the active-ingredient, inert-ingredients, and surfactants have been evaluated with respect to impacts to non-target organisms and sediment.

5. Page EC-6; Environmental Checklist-VIII-c; How would the project substantially alter the existing drainage pattern of the site or area..."?

6. Exhibit 1-3; The calculation of acre-feet of Egeria biomass does not take into account the percent of area covered. Biomass is overestimated.

7. More detail should be given to describe how coordination would occur with the agricultural commissioner to insure that irrigation will not be affected by the EDCP or Two-Year Komeen Trials. Include timeliness

8. Page 1-20; 1.7.1.2; "The DBW intends to use two formulations of both". "Both" what?

9. Although research has demonstrated that fragments can potentially form new growth and attachment structures, do they actually attach and grow once they have been cut?

10. Exhibit 1-8; Post application DO/herbicide monitoring must be such that the lowest DO and highest herbicide concentrations are picked up by the samples. The monitoring should be set up to accomplish this. The DO sampling schedule does not appear to accomplish this, Herbicide sampling should continue until concentrations drop to pre-application concentrations.

11. Page 1-44; "The DBW is not certain that application of registered aquatic herbicides constitutes a discharge to surface waters" DBW must recognize that if any herbicide leaves the treatment area (e.g. moves to a non-infested area, or concentrations become dilute enough that they are no longer efficacious) a waste is generated. The dead vegetation is also a waste. DBW is responsible for these wastes.

12. Many scientific statements in the environmental setting are unsupported. References should be used in this section. E.g. Page 2-3; Did A.C.O.E. state that surface water quality has declined "probably due to changing agricultural practices"? If that was their statement, reference

should follow that sentence. Otherwise, the statement should be supported with a reference or omitted.

13. Page 3-11; Section 3.1.1.1; The Basin Plan sets forth water quality objectives and an implementation plan for meeting those objectives. The Basin Plan designates beneficial uses for a water body. The water quality objectives are intended to be protective of the most sensitive beneficial use. The second paragraph of this section should be restated. When citing the Basin Plan, entire sections should be used. The section on pesticides has been altered such that much of the meaning of the Basin Plan has been lost in this interpretation. See Pesticides section. -No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

13

14. Theimmobilized form of Diquat may be non-toxic to organisms, but the high concentrations are a matter of concern until it becomes immobilized. As they site in the document, after four days, the concentration of a 0.37 mg/L application can still be as high as 10 µg/L, 20 times the aquatic life protection number.

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15. The Fluridone MCLG that is sited in the DRAFT EIR is not in our Compilation of Water Quality Goals. Provide a reference for this number.

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16. The last paragraph of the Sonar toxicity section mistakenly refers to Reward.

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17. With respect to THM formation, the dibromide component of the Reward molecule should be addressed. This will increase the THM formation potential of the receiving waters. The bromide ion is well known to enhance THM formation.

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18. Basin Plan objective for DO is 7 mg/L (Delta west of Antioch bridge). Basin Plan objective for DO is 6 mg/L (San Joaquin River between Turner Cut and Stockton). The remainder of the Delta is 5 mg/L. The DRAFT EIR only mentions the 5 mg/L. If treatment is to occur in areas where the 6 mg/L or 7 mg/L objective applies, the higher objective must be considered. The potential of treatment to depress DO must be taken into account when setting lower-limits on DO prior to application. E.g. If an application generally results in a 2 mg/L drop in DO levels, an application to 5 mg/L DO water will undoubtedly result in an exceedance of Basin Plan objectives.

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19. Page 3-35; "USEPA (1986) asserts that the 48-hour LC50 value for exposure to fluridone is 6.3 ppm." For what organism?

19

20. Mechanical harvesting is (presumably erroneously) mentioned several times as part of the Two-Year Komeen trials.

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21. Although the Basin Plan objective for copper is 10 µg/L, DWR water quality data suggest that at times the hardness of Delta water is sufficiently low to facilitate acute copper toxicity at concentrations as low as 5 µg/L, and chronic copper toxicity at concentrations less than 4 µg/L. DBW should account for hardness at sites, when reporting potential for toxicity.

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22. In target plots, three hours after application, why were some measured copper concentrations as high as 1.50 ppm, roughly twice the application target rate?

23. The statement that the [copper] dissipation rate is faster in the Delta than at Clear Lake should be supported with a reference. Not all Delta sites are flowing.

24. Page 4-15; The DRAFT EIR should address the fact that eight days after application, some levels of copper remained elevated above Basin Plan Objectives for the Delta.

25. DBW should be aware that copper cannot be added to the system in areas having background copper concentrations above 10 ppb.

26. The Two-Year Komeen Trials, as well as the EDCP should consider THM concentration and THM formation potential prior to treatment.

27. Page 4-40; If high OC concentrations lessen the toxicity of copper, will higher application rates be required? If this is the case, these higher concentrations should be considered with respect to impacts to non-target organisms, sediment, and THMFP

28. The factors that influence ionization of chelated copper must be better described in relation to Delta waters.

29. Page 4-48; 4.2.5. 1; "In conclusion, Komeen use could result in unavoidable significant impacts to reptiles and amphibians, including the special status species mentioned above, due to its toxicity and effect on channel bank habitat. This would be a less than significant impact." Why are Unavoidable Significant Impacts considered Less Than Significant?

30. Proposed monitoring should be continued longer than 48 hrs, as previous information indicates that copper residue will remain elevated above Basin Plan Objectives for longer than two days (see comment 9). Monitoring shall continue until copper concentrations are below Basin Plan Objectives (backgound) at the application site.

31. Page 4-57; Personal communication with Anderson conflicts with prior information regarding persistence of copper at treated sites. According to Clear Lake Komeen Trials (Pages 4-14 and 4-15), copper does not appear to decrease to background levels within 24 hours.

32. Page 8-20; Mentioning Komeen use in the alternatives section implies that Komeen is being considered as a part of the EDCP, however, this is not the case.

33. Decomposition of plant and other organic matter will consume oxygen in the water column. Many proposed treatment areas are below or near Basin Plan objectives prior to application. All aquatic herbicide applications should be considered Avoidable Significant Impact with respect to DO. Poor management of applications could easily result in depressed DO levels.

34. Mitigation is not appropriately addressed. It should be used to offset Unavoidable Significant Impacts, not as a management practice to try to avoid them. Mitigation must be provided for significant impacts, such as unavoidable toxicity. What about upstream load reduction, or habitat improvement outside the application areas?

35. The California Toxics Rule contains copper criteria which apply to the Two-Year Komeen Trials.